

THE NEED FOR AND PURPOSE OF THE PROPOSED PROJECT

THE PORT AUTHORITY'S STATEMENT OF NEED FOR THE PROPOSED FACILITIES

The Need for Additional Container Terminal Facilities

Based on container cargo throughput, the Port of Houston is the nation's ninth largest container port, and is currently operating over capacity. Container traffic is measured in "twenty-foot equivalent units" (TEU), which are the equivalent of the volume of a twenty-foot container. A typical 40-foot container contains two TEU. In 1998 the Port of Houston handled 968,169 TEU. The primary container terminal at Barbours Cut handled approximately 809,000 TEU during 1998, which is the present practical annual throughput capacity of that facility.

The Port of Houston is the leader among U.S. Gulf Coast ports in moving containers. The Port of Houston handles a significant portion of Gulf Coast cargoes, both in volume and variety, having captured over 61 percent of the container traffic. The versatility of the Port, and the variety of the cargo handled, help establish the Port of Houston as a true load center. It handles an enormous concentration of cargo, and offers a wide variety of efficient services to many customers at a low cost, relative to other ports. Many researchers have recognized that the U.S. port system is developing a "hub and spoke" system similar to the U.S. airline/airport system. The analogy suggests that load centers will become hub ports for a number of carriers, while smaller ports will either become primarily transshipment ports or regional ports primarily handling inland and coastal traffic to local industries.

For the foreseeable future most of the cargo shipped through Gulf ports, including Houston will be carried by Panamax class ships, which include the largest ships able to transit the Panama Canal. Such ships are up to approximately 960 feet in length and 105 feet in width, can operate in depths of 37 feet of water, and carry up to 4,000 TEU. The primary container terminal currently serving Panamax class ships at the Port of Houston is the Barbours Cut Terminal. The Port of Houston needs to be positioned to accommodate more Panamax vessels, as well as some even larger post-Panamax vessels. This means the Port must provide new efficient landside capacities for storage and distribution of containers, as well as make improvements to the Barbours Cut facilities. The Port must plan to accommodate the greatest potential throughput based on existing and reasonably foreseeable market requirements. In order to increase market share and serve the demands of the shipping industry, the Port must continually improve its facilities and be prepared to expand its infrastructure.

Throughput at Barbours Cut has risen at an average growth rate of approximately 15 percent during 1995, 1996, 1997, and 1998, rising from 464,000 TEU in 1994 to 809,000 TEU in 1997. This is a rate much higher than the world at large. Studies performed by the Texas Transportation Institute (TTI) indicate a continued worldwide container movement growth rate of eight percent through year 2000 (6.0 to 6.5 percent for the U.S. container trade), and 7.2 percent worldwide growth by 2010. Additionally, the TTI studies indicate growth rates as high as 13.1 percent for ports along the Gulf of Mexico. Based on the growth rates identified in such studies, between 8 and 22 new container berths are indicated to be needed in the Texas Central Gulf Region between the years 1998 and 2028.

Because of the current growth experienced in the region, the Port Authority is currently developing the final unused tract of land available for container operations at Barbours Cut. With the development of this

area, there is no currently available land to continue to expand at Barbours Cut. Improvements to the existing facilities which are currently in the planning stage may in the future increase the throughput capacity of the Barbours Cut Terminal by 10 to 20 percent.

The PHA also has leased space in the Port of Galveston capable of handling approximately 87,000 TEU per year. This space was not well used in 1997 and 1998 since most shippers prefer to unload closer to major overland transportation systems such as the interstate highway system. Barbours Cut and the Port of Houston are closer to this system than is Galveston. However, the Galveston facility is projected to handle approximately 52,000 TEU in 1999.

Other facilities at the Port of Houston, such as those along the Turning Basin, have also been used to handle containers to decrease the demands placed on the Barbours Cut Terminal. In 1998, 152,398 TEU, or approximately 16.3 percent of the total container volume for the Port, was handled at the Turning Basin. However, the terminals at this location were not designed for container operations, and are poorly suited for such use. They can serve only smaller vessels that require smaller cranes and less storage area. The projected need for increased capacity to handle container cargo cannot be met by such facilities.

To aid in meeting the projected additional capacity for handling containerized cargo for the area, there is a need for development of a modern load center facility or facilities having sufficient waterfront area, and area behind the waterfront to deploy containers, organize them, and load them on trucks and rail. Today, the basic requirements for efficient container operations also includes integration of marine terminals with rail (intermodal) systems, truck access, warehousing, and storage. Such a facility could accomplish the objective of efficient traffic flow and quick truck turn-around time, which is critical to a successful container terminal operation. Intermodal cargo makes up a large part of a shipping line's operating expenses, and handling this cargo efficiently is a decisive consideration in determining which port to use. The ability to continue to draw intermodal business to the Port of Houston is critical because it is a major source of both jobs and revenue.

Without expanding to meet the growing demand for intermodal container cargo, the Port of Houston would lose market share to other ports. Cargo diverted to other U.S. Gulf ports would result in job losses and loss of economic benefit to the Houston-Galveston area. The loss of revenue from diverted cargo could jeopardize or impair the Port's ability to finance and maintain its existing facilities.

To meet the projected container cargo growth for the area, the Port Authority needs new container terminals which are large enough to be cost-effective to develop and operate, have efficient navigational access for modern container vessels, have efficient rail access, and have efficient access to the interstate highway system for truck distribution of cargo. The overall annual throughput capacity of the new facilities needs to be 2,300,000 TEU by about 2015 if container traffic grows at an annual rate of seven percent. If a growth rate of only three percent is experienced such a level of capacity would be needed by 2044.

Location, Land Area, and Access Requirements of New Container Terminals

The requirements of modern container vessels and increased cargo throughput significantly influence the physical requirements for new terminal facilities. Future berths will need to have a minimum length of

1,000 feet each, must have a depth sufficient to accommodate modern container vessels, and must have efficient access to the ocean via channels deep enough to accommodate modern container vessels. Based on industry-wide planning criteria, each berth will require approximately 100 gross acres of backland, 50 acres for container storage and processing, and 50 acres for support operations and infrastructure (such as intermodal facilities, stormwater management, and maintenance/operations facilities). This backland must be located directly behind and continuously adjoining the berth for efficient cargo operations.

Each new unit of a 1,000-foot berth and associated backland is projected to provide an ultimate throughput capacity of 332,000 TEU/yr. Modern terminals require efficient roadway linkage to the interstate highway system, since the majority of landside container movements are by truck. However, as the Port's role as a regional load center for container movements increases, it is mandatory that its terminals have an on-dock or near-dock intermodal rail yard for transferring containers onto rail cars, along with good access to the existing mainline railroad system.

Need for Additional Terminals

Based on the cargo throughput and throughput capacity projections discussed above, the PHA has identified the following needs for new container facilities as the basis for the Proposed Project:

- 2,000 feet of new container berth and 150 acres of new terminal backland by 2002; and
- An additional 5,000 feet of container berth and 570 acres of terminal backland by between 2015 and 2044, depending on the actual rate of cargo growth experienced.

The new terminals must include locations that will cost-effectively accommodate modern container ships. Further, all new terminals must have efficient roadway linkage to the interstate highway system, must include an intermodal rail yard, and must have efficient linkage to the existing mainline rail system.

Site Development Requirements for a Container Terminal Facility

To be competitive in the existing seaport environment, a modern container terminal must meet several important operational requirements. The terminal must have berths and wharves of sufficient size to accommodate the vessel traffic projected for the facility. The size of new container vessels requires that each berth have a minimum length of 1,000 feet, a minimum width of 125 feet, and a minimum depth of 40 feet. The backland directly behind and continuously adjacent to the berth must include approximately 100 acres for each berth for container storage and processing, support operations, and support infrastructure. The terminal must have a sufficient number of container cranes to meet the throughput requirements of shippers, and those cranes must have the outreach sufficient to reach across the full width of the vessel.

The backland behind each berth must provide for the storage and staging of containers transiting the facility. Included are facilities to provide power to refrigerated containers, facilities for minor container and chassis maintenance, and gate facilities for the inspection, receipt, and delivery of container equipment and cargo. Additional facilities include unloading docks and warehouses for loading (stuffing) or unloading (stripping) cargo from containers, facilities to accommodate U.S. Customs and USDA cargo

inspections, administrative offices, and maintenance facilities for container-handling equipment and the terminal facility.

The terminal must be provided with utilities such as power, water, and sewage collection to meet the operational requirements of ships, cranes, cargo processing facilities, maintenance facilities and administrative facilities. The terminal must include facilities for the collection and treatment of stormwater to meet applicable regulatory requirements. The terminal operating areas must be illuminated to meet applicable safety requirements and both lighting and utility services must be designed to allow the greatest practical flexibility in the use and layout of the container storage areas.

The terminal must include internal roadway systems to allow efficient flow of traffic between the wharves and container storage/processing areas, between container storage/processing areas and the gate facility, and between the container storage/processing areas and the intermodal rail yard. Rail access to the intermodal rail yard must be designed to minimize interference with container and truck movements within and between the terminal facilities.

The Need For Land Transportation Facilities

Roadway Access

The primary operational goal for roadway access to a container terminal is quick and efficient access to the interstate highway system, and to intermodal rail yards if they are not on or adjacent to the terminal. Factors considered in achieving this goal include the distance of the terminal site from the interstate system and minimizing the mixing of the high volume of terminal truck traffic with local traffic on local roads for reasons of safety and maintaining vehicle speed. This goal is best met by locating the terminal close to a grade-separated, limited access roadway leading to the interstate highway system.

Each terminal unit (1,000-foot berth plus backland) is projected to generate between 525 and 700 truck trips per day. The seven additional terminal units proposed by the PHA would be expected to generate an average of 4,900 truck trips per day. If located in a single location, such a terminal complex would require at a minimum a 4-lane access road in order to maintain traffic at an acceptable level of service.

Rail Access

A review of U.S. port development in recent years all indicates that efficient rail access is required for a modern terminal complex to be competitive. Rail facilities must provide access from an on-dock or near-dock intermodal rail yard to multiple mainline systems to effectively serve a port's service area, or "hinterland". As container volumes grow, especially with the concentration projected for the Port of Houston, direct rail access will be essential. Approximately 20 percent of the containerized cargo currently transiting the Barbours Cut Terminal moves to or from inland locations via rail. Growth in cargo volume will come partially through an expanded hinterland. More distant areas are likely to require rail delivery, thus increasing the portion of total container movements going by rail. The PHA is projecting that in the future more than 20 percent of container movements will be by train. Anticipating and planning good intermodal facilities will avoid intermodal connection problems such as those now facing other ports in the country. At the levels of rail activity anticipated for the proposed terminal complex, a single track

would be sufficient to handle the projected 29 trains per week. The intermodal rail yard must have sufficient loading and storage tracks to accommodate the anticipated cargo throughput.

The Need for Cruise Terminal Facilities

The Port of Houston's business plan also includes provisions for diversifying its business base to accommodate cruise lines. In 1992, the cruise passenger industry pumped \$2.7 billion into the local economies of the seven top U.S. cruise port cities: Miami, Los Angeles, New York, Seattle, Tampa, Port Canaveral, and Fort Lauderdale. The cruise industry also provided 450,166 jobs, which generated \$14.5 billion in wages and \$6.3 billion in domestic tax revenue from 1992 expenditures. In May 1997, the first cruise departure from the Port of Houston (Barbours Cut Terminal) occurred. Sailings by the Norwegian Cruise Lines have spent nearly \$1,000,000 monthly in the local economy.

The success of the current cruise service has demonstrated the viability of Houston as a home port for the cruise industry. Fully developing this business will require new high quality facilities that cannot be provided at Barbours Cut due to space limitations. The Port Authority needs new land and dockside accommodations to attract additional cruise lines and passengers.

THE CORPS OF ENGINEERS DETERMINATION OF PURPOSE AND NEED PURSUANT TO THE CLEAN WATER ACT

The Purpose of the Authority's Proposed Project

Corps of Engineers Responsibility

Under Section 404 of the Clean Water Act, as implemented through the Section 404(b)(1) Guidelines (40 CFR 230.10(10)), it is the responsibility of the USACE to identify the basic and overall purposes of a proposed project. The basic purpose is the fundamental, essential, or irreducible purpose of the proposed project and is used to determine whether the applicant's project is "water dependent" (40 CFR 230.10(a)(3)). The basic project purpose includes only the physical aspects of the project and does not include non-physical aspects, such as project viability.

The overall project purpose is determined by further defining the basic project purpose to describe the applicant's specific project. The alternatives analysis required under the Section 404(b)(1) Guidelines is based on the overall project purpose. The Corps must ensure that the overall project purpose of an applicant's proposal is not defined in an overly narrow manner merely for the purpose of precluding the possible existence of practicable alternatives. The Corps must consider the applicant's and other Federal agencies' views on the proper definition of overall project purpose, regarding a proposed project's appropriate size, need, and configuration. However, the Corps must independently determine the proper definition of overall project purpose to ensure that the range of potential practicable alternatives is not unduly restricted and at the same time not so broad that an inordinately large number of alternatives would have to be considered. A discussion of how the overall project purpose is used in the analysis of alternatives will be presented in Section 3 of the EIS.

Statement of Project Purpose Under the Clean Water Act §404

The Corps of Engineers has developed the following statement of the purpose for the Proposed Project: The purpose of the proposed terminal facilities is to increase the throughput capacity for containerized cargo and cruise ship passengers.

The Need for the Authority's Proposed Project

The Responsibility of the Corps of Engineers to Review the Port of Houston Authority's Statement of Need

The need for a project is a public interest factor that is separate from the Corps' determination of overall project compliance with the Section 404(b)(1) Guidelines. The Corps' public interest review must balance both the public and/or private need for a proposed project against all relevant aspects of the public interest (33 CFR 320.4(a)(2)(i)).

A public sector applicant's project is presumed to address some public need. The provision in the Corps regulations regarding economics (33 CFR 320.4(q)) states that the Corps will generally not concern itself with the question of whether a project would be economically viable or is needed in the marketplace. The Corps can defer to a State or other government entity the decision to spend public money and should not assert that a governmental body's decision was incorrect for economic or policy reasons.

However, the Corps must make an independent review of the public need for a project from the perspective of the overall public interest. The Corps may question the public need for a proposed project if it appears to be unduly or unrealistically speculative.